

CLAIMS

What is claimed is:

1. An apparatus for reading two-dimensional optical information, comprising:
 - a housing having a light-transmissive portal;
 - a photosensitive array, located within said housing to capture two-dimensional optical information;
 - an optical system, positioned relative to said photosensitive array and said light-transmissive portal so as to focus two-dimensional optical information onto said photosensitive array;
 - a memory system, coupled with said photosensitive array to store output from said photosensitive array; and
 - a display system, coupled with said memory system, to display an image of optical information captured by said photosensitive array.
2. The apparatus of claim 1, further comprising a photosensitive array control system, coupled with said photosensitive array.
3. The apparatus of claim 1, further comprising a user feedback system to assist reading of two-dimensional optical information.

4. The apparatus of claim 1, further comprising:
 - a pattern recognition system configured to assist a user in recognizing two-dimensional optical information; and
 - wherein said display system is associated with said housing to display two-dimensional optical information as processed by said pattern recognition facility.
5. The apparatus of claim 1, wherein said housing is of a size and shape suited for hand-held operation.
6. The apparatus of claim 1, wherein said photosensitive array comprises a one-dimensional array.
7. The apparatus of claim 6, further comprising a rastering device configured to raster one-dimensional image segments of two-dimensional optical information onto said photosensitive array.
8. The apparatus of claim 1, further comprising a zoom system.
9. The apparatus of claim 1, further comprising a focusing system configured to variably focus two-dimensional optical information onto said photosensitive array.

10. The apparatus of claim 1, further comprising a decoding system configured to decode two-dimensional optical information.

11. A method for reading two-dimensional optical information, comprising:

directing a reader at optical information to be read, wherein

said reader includes:

a housing having a light-transmissive portal;

a photosensitive array, located within said housing to capture two-dimensional optical information;

an optical system, positioned relative to said photosensitive array and said light-transmissive portal so as to focus two-dimensional optical information onto said photosensitive array;

a memory system, coupled with said photosensitive array to store output from said photosensitive array; and

a display system, coupled with said memory system, to display an image of optical information captured by said photosensitive array;

displaying an image of captured two-dimensional optical information on said display system; and

aiming said reader at a specific two-dimensional optical information indicia to be read at least partially with the aid of information displayed on the display system.

12. The method of claim 11, wherein said housing is of a size and shape suited for hand-held operation.

13. The method of claim 11, wherein said photosensitive array comprises a one-dimensional array.

14. The method of claim 13, wherein said reader further comprises a rastering device configured to raster one-dimensional image segments of two-dimensional optical information onto the photosensitive array.

15. The method of claim 11, wherein said photosensitive array comprises a two-dimensional array.

16. The method of claim 11, further comprising a zoom system.

17. The method of claim 11, further comprising a focusing system configured to variably focus two-dimensional optical information onto the photosensitive array.

18. The method of claim 11, wherein the reader further comprises a photosensitive array control system, coupled with said photosensitive array.

19. The method of claim 11, wherein the reader further comprises a user feedback system to assist reading of two-dimensional optical information.

20. The method of claim 11, wherein the reader further comprises:
a pattern recognition system configured to assist a user in
recognizing two-dimensional optical information; and
wherein the display system is associated with the housing to
display two-dimensional optical information as processed by the
pattern recognition system.

21. The method of claim 20, wherein the pattern recognition system
comprises a neural network.

22. The method of claim 11, further comprising the step of removing
user hand jitter from two-dimensional information displayed to the user.

23. The method of claim 11, wherein the reader further comprises a decoding system configured to decode two-dimensional optical information.

24. The method of claim 23, further comprising the step of decoding captured two-dimensional optical information.

25. An apparatus for reading optical information, comprising:
a photosensitive system oriented to capture optical information;
an optical system associated with said photosensitive system for directing optical information onto said photosensitive system;
a display coupled with said photosensitive system and oriented to display optical information captured by said photosensitive system; and
a portable, hand-held housing supporting said photosensitive system, said optical system and said display.

26. The apparatus of claim 25, further comprising a power supply for providing operating power.

27. The apparatus of claim 25, further comprising:

 a pattern recognition system configured to assist a user in
 recognizing optical information; and

 wherein said display is associated with said pattern
 recognition system to display optical information as processed by
 said pattern recognition system.

28. The apparatus of claim 25, further comprising a user feedback
system to facilitate user control over the apparatus.

29. The apparatus of claim 25, wherein said photosensitive system
comprises a one-dimensional array of photosensitive regions.

30. The apparatus of claim 29, further comprising a raster device
configured to raster one-dimensional image segments of two-dimensional
optical indicia onto said one-dimensional array.

31. The apparatus of claim 25, wherein said photosensitive system is a
two-dimensional array of photosensitive regions.

32. The apparatus of claim 25, further comprising a zoom system.

33. The apparatus of claim 25, further comprising a focusing system configured to variably focus optical information onto said photosensitive system.

34. A two-dimensional optical information reading apparatus, comprising:

means for housing having a light-transmissive portal;

means for sensing two-dimensional optical information,

located within said means for housing;

means for directing two-dimensional optical information onto

said means for sensing two-dimensional optical information;

means for providing a memory, coupled with said means for sensing two-dimensional optical information, to store output from said means for sensing two-dimensional optical information; and

means for displaying optical information, coupled with said means for providing a memory, to display optical information captured by said means for sensing two-dimensional optical information.